

Module: Introduction**Page: W0. Introduction**

W0.1**Introduction****Please give a general description and introduction to your organization**

SSE is a UK based company listed on the London Stock Exchange. It is involved in energy production, generation and storage; energy transmission and distribution; and supply of energy and related services to customers.

SSE's core purpose is to provide the energy people need in a reliable and sustainable way. Its strategy is to deliver the efficient operation of, and investment in, a balanced range of economically-regulated and market-based businesses in energy production, storage, transmission, distribution, supply and related services in the energy markets in Great Britain and Ireland.

SSE has three key business segments:

- 1) Networks – SSE has an ownership interest in the energy networks businesses in electricity transmission in the north of Scotland, electricity distribution in the north of Scotland and southern central England and in gas distribution in Scotland and southern England. These 'regionally defined' businesses are subject to economic regulation by Ofgem.
- 2) Retail – SSE supplies electricity, gas and related services such as telecoms in markets in Great Britain and Ireland. It is focused on attracting and retaining customers through excellent service and a brand people trust. It also incorporates SSE Enterprise, which brings together key SSE services for industrial, commercial and public sector customers.
- 3) Wholesale – SSE provides energy and related services for customers in wholesale energy markets in Great Britain and Ireland. It delivers this through Energy Portfolio Management and Electricity Generation, Gas Production and Gas Storage. Amongst other things SSE is a leader in renewable energy across the UK and Ireland.

W0.2**Reporting year**

Please state the start and end date of the year for which you are reporting data

Period for which data is reported

Fri 01 Apr 2016 - Fri 31 Mar 2017

W0.3

Reporting boundary

Please indicate the category that describes the reporting boundary for companies, entities, or groups for which water-related impacts are reported

Companies, entities or groups over which operational control is exercised

W0.4

Exclusions

Are there any geographies, facilities or types of water inputs/outputs within this boundary which are not included in your disclosure?

Yes

W0.4a

Exclusions

Please report the exclusions in the following table

Exclusion	Please explain why you have made the exclusion
Scotland Gas Networks and Southern Gas Networks (SGN) Supply chain emissions.	SGN is a Joint Venture and SSE does not have operational control over these operations. Environment data is covered by SGN and reported in SGNs annual report.
Exploration and Production UK Ltd.	Although this company is wholly owned by SSE, its stake in any assets does not exceed 50%.
Other Joint Ventures	SSE does not have operational control over these operations.
Operations outside of the UK	SSE has operations in Ireland. These are immaterial in terms of water use and are therefore excluded.
Supply chain	SSE understands the influence it can have on suppliers to take action to reduce their water use and manage water risk and recognises the challenges with gathering accurate and reliable data for it suppliers. Water data for its suppliers are currently not measured.

Further Information

Module: Current State

Page: W1. Context

W1.1

Please rate the importance (current and future) of water quality and water quantity to the success of your organization

Water quality and quantity	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital for operations	Important	Sufficient amounts of water from freshwater sources is very important for our business, most obviously as a fuel source for hydro generation operations. At hydro generation sites water is taken from rivers and lochs and returned to the water environment after being run through the turbines to generate electricity. Furthermore, a sufficient volume of good quality water is also important for SSE's thermal operations. Good quality freshwater is required for operational purposes such as to cool generation plants and as process water for a variety of operations.

Water quality and quantity	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of recycled, brackish and/or produced water available for use	Not very important	Not very important	A sufficient amount of good quality freshwater water is very important for our operations. One of SSE's thermal generation assets relies on cooling water for its operations from estuaries or the open sea (i.e. brackish water). However, the risk of insufficient amounts of brackish water is low for this power station.

W1.2

For your total operations, please detail which of the following water aspects are regularly measured and monitored and provide an explanation as to why or why not

Water aspect	% of sites/facilities/operations	Please explain
Water withdrawals- total volumes	76-100	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in terms of quantity. This data is gathered for regulatory and operational purposes as it is business critical.
Water withdrawals- volume by sources	76-100	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in terms of quantity. This data is gathered for regulatory and operational purposes as it is business critical.
Water discharges- total volumes	76-100	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in terms of quantity. This data is gathered for regulatory and operational purposes as it is business critical.
Water discharges- volume by destination	76-100	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in terms of quantity. This data is gathered for regulatory and operational purposes as it is business critical.
Water discharges- volume by treatment method	76-100	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in terms of quantity. This data is gathered for regulatory and operational purposes as it is business critical.
Water discharge quality data-	76-100	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in

Water aspect	% of sites/facilities/operations	Please explain
quality by standard effluent parameters		terms of quantity. This data is gathered for regulatory and operational purposes as it is business critical.
Water consumption- total volume	76-100	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in terms of quantity. This data is gathered for regulatory and operational purposes as it is business critical.
Facilities providing fully-functioning WASH services for all workers	Less than 1%	Hydro and thermal generation activities contribute over 99% of our total water withdrawals in terms of quantity. This data is gathered for internal monitoring and measurement purposes to support efficiency activities and programmes.

W1.2a

Water withdrawals: for the reporting year, please provide total water withdrawal data by source, across your operations

Source	Quantity (megaliters/year)	How does total water withdrawals for this source compare to the last reporting year?	Comment
Fresh surface water	22459436	Much lower	The majority of water abstracted and then discharged is associated with SSE's hydro generation business. Between 2015/16 and 2016/17 water levels were low and generation decreased by around 24% and water withdrawals decreased by 22%. For thermal plants water is used for cooling and as process water in a variety of operations. Cooling water is withdrawn and returned directly to the environment. The better the cooling the higher the efficiency of water use. Between 2015/16 and 2016/17 there was an increase in the gross water withdrawn. This was primarily attributable to an increase in the generation output from gas fired power stations. This led to an increased amount of water abstracted and returned directly after use in the cooling process. The water abstracted increased from 292,600 megalitres to 473,984 megalitres between 2015/16 and 2016/17 (62% increase in total water abstracted).

Source	Quantity (megaliters/year)	How does total water withdrawals for this source compare to the last reporting year?	Comment
Brackish surface water/seawater	199501	Higher	The water withdrawn from brackish surface water/ seawater is only in relation to SSE's Peterhead power station. Water is used for cooling and returned directly back to the environment. This power station has increased its running time after it was upgraded in 2014/15 and this has resulted in higher amount of cooling water being withdrawn and returned to the environment in 2015/16 (120,441 megalitres) and in 2016/17 (199,501 megalitres).
Rainwater	0	Not applicable	SSE does not use rainwater for its operations.
Groundwater - renewable	0	Not applicable	SSE does not use groundwater (renewable) for its operations.
Groundwater - non-renewable	0	Not applicable	SSE does not use ground (non renewable) water for its operations.
Produced/process water	0	Not applicable	SSE does not use produced water for its operations.
Municipal supply	92	Higher	Municipal supplies are used for amenities in SSE's buildings and operations. Water used in amenities increased by 8% between 2015/16 and 2016/17 reflecting an increase in the number of buildings in the SSE property portfolio and the change in the use of space.
Wastewater from another organization	0	Not applicable	SSE does not use waste water from another organisation for its operations.
Total	22659028	Much lower	The majority of water abstracted is for hydro electricity generation. Hydro generation output decreased by 24% between 2015/16 and 2016/17 and as a result the water used in the turbines decreased by 22%.

W1.2b

Water discharges: for the reporting year, please provide total water discharge data by destination, across your operations

Destination	Quantity (megaliters/year)	How does total water discharged to this destination compare to the last reporting year?	Comment
Fresh surface water	22454873	Much lower	The majority of water abstracted and then discharged is associated with electricity generation in SSE's hydro generation business. At these sites water is taken from rivers/ lochs and returned to the water environment after being run through the turbines to generate electricity. Generation decreased by around 24% and water discharges decreased by 22% between 2015/16 & 2016/17. For thermal plants water is used for cooling and as process water. Water is treated onsite before returning it to source in accordance with specific environmental permits. Between 2015/16 & 2016/17 output from the gas power stations increased which led to an higher water abstraction and return. SSE began the process of decommissioning its Ferrybridge coal fired power station and the cooling towers were drained and waters discharged. The water returned increased from 62,796 megalitres to 284,586 megalitres (65% increase).
Brackish surface water/seawater	199501	Higher	The water withdrawn and returned from/ to brackish surface water/ seawater is only in relation to SSE's Peterhead power station. Water is used for cooling and returned directly back to the environment. This power station increased its running time after being upgraded in 2014/15 and this has resulted in higher amount of cooling water being withdrawn and returned to the environment in 2015/16 (120,441 megalitres) and in 2016/17 (199,500 megalitres).
Groundwater	0	Not applicable	SSE does not discharge water to groundwaters.
Municipal/industrial wastewater treatment plant	92	Higher	For SSE's thermal generation activities some process water and cooling waters are discharged to an onsite wastewater treatment plant before discharged back to source. As a result, SSE includes this water discharge in its fresh surface water volume reported. Municipal supplies are used for amenities in SSE's buildings and operations. Water used in amenities increased by 8% between 2015/16 and 2016/17 reflecting an increase in the number of buildings in the SSE property portfolio and some changes to the use of space.
Wastewater for another organization	0	Not applicable	SSE does not use waste water from another organisation for its operations.
Total	22654466	Much lower	The majority of water abstracted and discharged is for hydro electricity generation. Hydro generation output decreased by 24% between 2015/16 and 2016/17 and as a result the water used in the turbines and returned to the environment decreased by 22%.

Water consumption: for the reporting year, please provide total water consumption data, across your operations

Consumption (megaliters/year)	How does this consumption figure compare to the last reporting year?	Comment
5071	Lower	The majority of water is abstracted and then returned to source after being used in SSE's hydro generation plants. In 2016/17 water was consumed as process water in thermal power stations and in non operational buildings for amenities. In 2016/17 a change in the generation mix caused a reduction in total water consumption. In addition, coal fired power generation contributed to only 4% of output in 2016/17. This contributed to a fall in total water consumption from 8,257 megalitres in 2015/16 to 5,071 megalitres in 2016/17 (a reduction of around 39%).

W1.3

Do you request your suppliers to report on their water use, risks and/or management?

No

W1.3a

Please provide the proportion of suppliers you request to report on their water use, risks and/or management and the proportion of your procurement spend this represents

Proportion of suppliers %	Total procurement spend %	Rationale for this coverage

W1.3b

Please choose the option that best explains why you do not request your suppliers to report on their water use, risks and/or management

Primary reason	Please explain
Important but not an immediate business priority	SSE has identified its material issues relating to its key business operations. SSE has a programme of work with its suppliers based on risk to review and understand the impact of environment, social and governance issues. Modern Slavery, climate change and employment practices have been identified as higher risk with the likelihood of and magnitude of potential financial/ reputational impacts higher than those posed by water risks. Water is highlighted as a risk to the business but the risk review highlighted it as low risk in terms of the likelihood and magnitude of potential financial and reputation impact. Risks are reviewed annually. Overwhelmingly climate change is the most material environmental risk. SSE remains vigilant regarding the emergence of higher risks relating to water.

W1.4

Has your organization experienced any detrimental impacts related to water in the reporting year?

No

W1.4a

Please describe the detrimental impacts experienced by your organization related to water in the reporting year

Country	River basin	Impact driver	Impact	Description of impact	Length of impact	Overall financial impact	Response strategy	Description of response strategy
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W1.4b

Please choose the option below that best explains why you do not know if your organization experienced any detrimental impacts related to water in the reporting year and any plans you have to investigate this in the future

Primary reason	Future plans
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Further Information

Module: Risk Assessment

Page: W2. Procedures and Requirements

W2.1

Does your organization undertake a water-related risk assessment?

Water risks are assessed

W2.2

Please select the options that best describe your procedures with regard to assessing water risks

Risk assessment procedure	Coverage	Scale	Please explain
Comprehensive company-wide risk assessment	Direct operations and supply chain	All facilities and suppliers	Why this procedure is relevant to SSE: Risk management at SSE involves identifying and protecting the business from outcomes that could threaten the achievement of the business objectives or the core values of the company. The Board is responsible for the overall system of risk management and internal control. It directly sets the Group Risk Management and Internal Control policy and reviews risk management performance at SSE on an ongoing basis. Why this level of coverage and scale is relevant to SSE: Water risks have the potential to impact all parts of the business across all geographies (for example, networks and flooding in the north and south of the UK). The Safety, Health and Environment Committee supported by the Board's Safety, Health and Environment Advisory Committee oversee environment and safety risks.

W2.3

Please state how frequently you undertake water risk assessments, at what geographical scale and how far into the future you consider risks for each assessment

Frequency	Geographic scale	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Region	>6 years	The Board is responsible for the overall system of risk management. It either directly, or through other committees, sets policies and reviews risk at SSE. Conducted six monthly to ensure that risks are managed and relevant and mitigation is in place. Water risks have the potential to impact all parts of our business across all geographies (for example, networks and flooding north and south of UK).

W2.4

Have you evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy?

Yes, evaluated over the next 10 years

W2.4a

Please explain how your organization evaluated the effects of water risks on the success (viability, constraints) of your organization's growth strategy?

Process and procedures used to evaluate water risk on the success of SSE's growth strategy: SSE identifies and evaluates risk at both Group and divisional (including assets) level by considering, controlling and monitoring the impact of risks against the achievement of SSE's strategic objectives which are set by the Board following assessment of the opportunities available. The Executive Committee and its sub-committees have responsibility for overseeing SSE's Principal Risks.

The Group Risk Management and Strategic Frameworks have been designed to ensure (amongst other things) that SSE is in a position to address the issue of water, whether as a risk or as an opportunity. For example, water quality and quantity issues could potentially present challenges in operations of hydro generation and thermal generation assets; equally, flooding could cause disruption to operations across networks, generation and retail businesses.

How results contribute to the growth strategy: For SSE, the challenge of water (regulatory, physical and reputational) does not have a significant impact to change or impact the business' growth strategy. Where water risk is relevant, mitigation plans are in place to manage the impact and ensure the organisations growth strategy is not affected.

W2.4b

What is the main reason for not having evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy, and are there any plans in place to do so in the future?

Main reason	Current plans	Timeframe until evaluation	Comment

W2.5

Please state the methods used to assess water risks

Method	Please explain how these methods are used in your risk assessment
Other: SSE's own internal risk assessment procedures that include water as a safety, environment and health risk.	The Board is responsible for the overall system of risk management. It either directly, or through other committees, sets policies and reviews risk at SSE. The risk assessment timeframe is considered relevant because in terms of water risk there are regulatory, physical and asset risks that can occur over the short term (next 12 months), medium (within 5 years) and long term (6 years and beyond). For example, SSE's assets are managed over 25 years and beyond. In the short term water risks can arise through issues such as flooding, in the medium term changes in future water legislation have the potential to impact the way SSE manages its hydro generation assets, and in the long term climate change may impact water resource availability and how SSE manages its generation assets. Risk assessments are considered six monthly or more frequently to ensure that risks are managed and that the risks still remain relevant and that there is appropriate mitigation methods in place to reduce the impact of the risk. Water risks have the potential to impact all parts of our business across all geographies. For example, our networks business covers the north of Scotland and south of England and all areas are at risk of flooding events. For this part of the business over 300 risk assessments are completed to understand the impact of flooding to business operations (such as the substations).

W2.6

Which of the following contextual issues are always factored into your organization's water risk assessments?

Issues	Choose option	Please explain
Current water availability and quality parameters at a local level	Relevant, included	Water is used for generation at SSE's hydro power stations. Water availability is relevant as the amount of water impacts the hydro generation efficiency. Hydro generation is managed according to the level of water availability. We take a 10 year rolling average of runoff for the operation of the hydro assets for every year. We then overlay station outages and maintenance that may affect that the running of the hydro assets. This rolling average takes some account of the past trends in climate and weather in order to enable SSE to predict future generation in its hydro assets. Water availability is therefore assessed in the immediate term (daily through 24/7 monitoring systems), short term (for the year ahead), medium

Issues	Choose option	Please explain
		term (5 years ahead) and long term (over 5 years into the future) for all our hydro power station operations at a local, regional and national level. These risk assessments then inform how SSE's hydro generation plant is run and adapted to the resources available. Water is also used to cool generation plants; as process water for a variety of operations; and for amenities in SSE's offices and buildings. At thermal generation plants the majority of water is used for cooling. Water quality is constantly monitored and water treated to meet operational quality requirements.
Current water regulatory frameworks and tariffs at a local level	Relevant, included	Water is used for energy generation, cooling, process water and for amenities in offices and buildings. Regulations on water impact all areas of the business, for example compensation flow regulations (regulated volumes of water that must remain in the river) impact the way we run our hydro generation. Water tariffs also impact our hydro and thermal generation activities as there are water charges in place based on the volumes of water consented for use. As part of SSE's risk assessment process, water risks from regulatory frameworks and tariffs are identified and assessed, procedures and processes implemented to manage the impacts and measurement, monitoring and reporting systems in place to report compliance to relevant authorities. SSE has compliance and regulatory teams to manage and mitigate the impact of regulatory frameworks to its business activities. SSE also consults and engages with relevant authorities to manage the impact of water regulation (for example Scottish Environmental Protection Agency (SEPA), Environment Agency for England and Wales (EA), and Environment Protection Agency in Ireland (EPA)).
Current stakeholder conflicts concerning water resources at a local level	Relevant, included	Water is used for energy generation, cooling, process water and for amenities in offices and buildings. The use of water by stakeholders and the use of water for SSE's operations can in some instances create water resource issues at a local level. As part of SSE's risk assessment process, water risks that arise from the use of water resources by other stakeholders are integrated into operational procedures and processes, impacts are measured, monitored and reported to stakeholders. SSE also consults and engages with relevant stakeholders to manage and mitigate the impact of its operations on water resources and other stakeholders use of these resources (such as Fisheries Boards and recreational users in relation to its hydro operations). An example of how we are putting this approach into practice – River Garry in Perthshire – where under the river basin management plan SSE will be restoring flow to a river which has been dry since the 1950s. This will impact the hydro generation output at this site however it will bring about environmental improvements to the river biodiversity which is seen to be a benefit to all stakeholders. The change in the operation of this hydro generation facility was a joint agreement between SSE, SEPA and the District Salmon Fishery Board to improve flows on the River Garry. There are further sites that SSE is investigating introducing similar environmental improvements, however, these will not be on the scale of the change that will take place at the River Garry catchment.
Current implications of water on your key commodities/raw materials	Relevant, included	Water is used for generation at SSE's hydro power stations. Water availability is relevant as the amount of water impacts the hydro generation efficiency. Hydro generation is managed according to the level of water availability. For SSE the risk is assessed through understanding trends in climate and weather in the past and predicting this over different time periods in order to run generation in the future. Water

Issues	Choose option	Please explain
		availability is therefore assessed in the immediate term (daily through 24/7 monitoring systems), short term (for the year ahead), medium term (5 years ahead) and long term (over 5 years into the future) for all our hydro power station operations at a local, regional and national level. These risk assessments then inform how SSE's hydro generation plant is run and adapted to the resources available.
Current status of ecosystems and habitats at a local level	Relevant, included	Water is used for energy generation, cooling, process water and for amenities in offices and buildings. The status of ecosystems and habitats at a local level is constantly reviewed through SSE's risk assessment approach. To mitigate the risk SSE has processes and procedures in place to monitor water quantity and quality to ensure compliance with any consents, and reports regularly to stakeholders (including regulators) on its water impacts. SSE also engages and consults with stakeholders on water related issues and the impact that its activities have on the current status of ecosystems and habitats at a local level. We monitor ecology and commission research with Universities and academics to better understand the ecology and biodiversity of the rivers that we operate in. For example University of Highlands and Islands research using genetic analysis and fish demographic data to produce sustainable conservation limits. Another example, is how smolts exit through large lochs/ lakes both natural and reservoirs with SCENE (a collaboration of Glasgow University, Northern Ireland, University of Highlands and Islands).
Current river basin management plans	Relevant, included	Water is used for energy generation, cooling, process water and for amenities in offices and buildings. Current river basin management plans are integrated into the processes and procedures SSE uses to identify, assess and manage water related risk. SSE monitors water quantity and quality to ensure compliance with any consents, and reports regularly to stakeholders (including regulators) on its water impacts. SSE also engages and consults with stakeholders on water related issues and the impact to river basin management plans. For example, current risks in relation to river basin management plan include potential changes to the flows and availability of water for our hydro and thermal generation activities. We work with regulators such as SEPA to find the appropriate balance between local environmental improvements and low carbon generation/ security of supply. One example of this balance is 'hands-off flow' when river flows are very low and security of supply is required.
Current access to fully-functioning WASH services for all employees	Relevant, included	Water is used for amenities in offices and buildings. Current risk assessments of availability and quality of water are included in property risk management plans. SSE monitors water consumption and has activities in place to reduce water across its property portfolio (such as water saving devices and behaviour awareness raising programmes).
Estimates of future changes in water availability at a local level	Relevant, included	Water is used for generation at SSE's hydro power stations. Water availability is relevant as the amount of water impacts the hydro generation efficiency. Hydro generation is managed according to the level of water availability. For SSE the risk is assessed through understanding trends in climate and weather in the past and predicting this over different time periods in order to run generation in the future. Water availability is therefore assessed in the immediate term (daily through 24/7 monitoring systems), short term (for the year ahead), medium term (5 years ahead) and long term (over 5 years into the future) for all our hydro power station operations at a local, regional and national level. These risk assessments

Issues	Choose option	Please explain
		then inform how SSE's hydro generation plant is run and adapted to the resources available. One risk to future availability is the water use trends by other sectors who are in competition for the water. In the hydro catchments SSE operates in, it is the only major industry sector and has the legal right to the water under UK law. This means that if a third party does require access to the water, SSE has the legal water right granted which allows SSE to maintain its supplies.
Estimates of future potential regulatory changes at a local level	Relevant, included	SSE's generation assets will be subject to changes in national regulations that implement the requirements of the EU Water Framework Directive. For SSE's hydro generation operations this will impact future compensation levels and how SSE runs its generation plant. For SSE's thermal generation plant this may impact the environmental quality standards and potentially the water discharges from sites. SSE is in consultation and regular engagement with Scottish Environmental Protection Agency, Environment Agency, DEFRA and BEIS (through industry representative groups) to understand and mitigate against these impacts. SSE has compliance and regulation teams that monitor and respond to changes in the regulatory environment to ensure that future regulations are understood and that relevant procedures and processes are implemented in advance of the regulatory changes. One risk of future availability is the water trends by other sectors who are in competition for the water. In the hydro catchments SSE operates in, it is the only major industry sector and has the legal right to the water under UK law. This means that if a third party does require access to the water, SSE has the legal water right granted which allows SSE to maintain its supplies.
Estimates of future potential stakeholder conflicts at a local level	Relevant, included	Water is used for energy generation, cooling, process water and for amenities in offices and buildings. The use of water by stakeholders and the use of water for SSE's operations can in some instances create future potential water resource issues at a local level. As part of SSE's risk assessment process, water risks that arise from the use of water resources by other stakeholders are integrated into risk assessment and operation processes. SSE also consults and engages with relevant stakeholders to manage and mitigate the impact of its operations on water resources and other stakeholders' use of these resources (such as Fisheries Boards and recreational users in relation to its hydro operations).
Estimates of future implications of water on your key commodities/raw materials	Relevant, included	Water is used for generation at SSE's hydro power stations. Water availability is relevant as the amount of water impacts the hydro generation efficiency. Hydro generation is managed according to the level of water availability. For SSE the risk is assessed through understanding trends in climate and weather in the past and predicting this over different time periods in order to run generation in the future. Water availability is therefore assessed in the immediate term (daily through 24/7 monitoring systems), short term (for the year ahead), medium term (5 years ahead) and long term (over 5 years into the future) for all our hydro power station operations at a local, regional and national level. These risk assessments then inform how SSE's hydro generation plant is run and adapted to the resources available in the future. SSE also conducts scenario analysis for its generation plant to ensure that future changes in key resources are factored into investment and future operating decisions.
Estimates of future potential changes in the status of ecosystems and habitats	Relevant, included	Water is used for energy generation, cooling, process water and for amenities in offices and buildings. The estimate of future potential changes in the status of ecosystems and habitats at a local level is

Issues	Choose option	Please explain
at a local level		constantly reviewed through SSE's risk assessment approach. To mitigate this potential risk SSE has processes and procedures in place to monitor water quantity and quality to ensure compliance with any consents. SSE also engages and consults with stakeholders on water related issues and the impact that its future activities have on the future status of ecosystems and habitats at a local level.
Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level	Relevant, included	Water is used for generation at SSE's hydro power stations. Water availability is relevant as the amount of water impacts the hydro generation efficiency. Hydro generation is managed according to the level of water availability. For SSE the risk is assessed through understanding trends in climate and weather in the past and predicting this over different time periods in order to run generation in the future. Water availability is therefore assessed in the immediate term (daily through 24/7 monitoring systems), short term (for the year ahead), medium term (5 years ahead) and long term (over 5 years into the future) for all our hydro power station operations at a local, regional and national level. These risk assessments then inform how SSE's hydro generation plant is run and adapted to the resources available. SSE also conducts scenario analysis for its generation plant to ensure that future changes in key resources are factored into investment and future operating decisions.
Scenario analysis of regulatory and/or tariff changes at a local level	Relevant, included	SSE's generation assets will be subject to changes in national regulations that implement the requirements of the EU Water Framework Directive. For SSE's hydro generation operations this will impact future compensation levels and how SSE runs its generation plant. For SSE's thermal generation plant this may impact the environmental quality standards and potentially the water discharges from sites. SSE is in consultation and regular engagement with Scottish Environmental Protection Agency, Environment Agency, DEFRA and BEIS (through industry representative groups) to understand and mitigate against these impacts. SSE has compliance and regulation teams that monitor and respond to changes in the regulatory environment to ensure that future regulations are understood and that relevant procedures and processes are implemented in advance of the regulatory changes. SSE also conducts scenario analysis for its generation plant to ensure that future changes in regulations are factored into investment and future operating decisions.
Scenario analysis of stakeholder conflicts concerning water resources at a local level	Relevant, included	Water is used for energy generation, cooling, process water and for amenities in offices and buildings. The use of water by stakeholders and the use of water for SSE's operations can in some instances create future potential water resource issues at a local level. As part of SSE's risk assessment process, water risks that arise from the use of water resources by other stakeholders are integrated into scenario analysis for future operation processes. SSE also consults and engages with relevant stakeholders to manage and mitigate the impact of its operations on water resources and other stakeholders' use of these resources (such as Fisheries Boards and recreational users in relation to its hydro operations).
Scenario analysis of implications of water on your key commodities/raw materials	Relevant, included	SSE's generation assets will be subject to changes in national regulations that implement the requirements of the EU Water Framework Directive and this will have significant impacts on the use of water in our generation activities. For SSE's hydro generation operations this will impact future compensation levels and how SSE runs its generation plant. For SSE's thermal generation plant this may impact the environmental quality standards and potentially the water discharges from sites. SSE

Issues	Choose option	Please explain
		is in consultation and regular engagement with Scottish Environmental Protection Agency, Environment Agency, DEFRA and BEIS (through industry representative groups) to understand and mitigate against these impacts. SSE has compliance and regulation teams that monitor and respond to changes in the regulatory environment to ensure that future regulations are understood and that relevant procedures and processes are implemented in advance of the regulatory changes. SSE also conducts scenario analysis for its generation plant to ensure that future changes in regulations are factored into investment and future operating decisions.
Scenario analysis of potential changes in the status of ecosystems and habitats at a local level	Relevant, included	SSE's generation assets will be subject to changes in national regulations that implement the requirements of the EU Water Framework Directive as a result of scenario analysis conducted by stakeholders on the potential changes in the status of ecosystems and habitats at a local level. For SSE's hydro generation operations this will impact future compensation levels and how SSE runs its generation plant. For SSE's thermal generation plant this may impact the environmental quality standards and potentially the water discharges from sites. SSE is in consultation and regular engagement with key stakeholders such as Scottish Environmental Protection Agency, Environment Agency, DEFRA and BEIS (through industry representative groups) to understand and mitigate against these impacts. SSE has compliance and regulation teams that monitor and respond to changes in the potential changes in the status of ecosystems and habitats to ensure that future operations and investment decisions take account of these factors. SSE also conducts scenario analysis for its generation plant to ensure that future changes in ecosystems and habitats are factored into investment and future operating decisions.
Other	Relevant, included	SSE has assessed the impact of different stakeholders and has not identified any other categories that may have a significant impact on its operations in relation to water risk.

W2.7

Which of the following stakeholders are always factored into your organization's water risk assessments?

Stakeholder	Choose option	Please explain
Customers	Relevant,	SSE has regular contact with its customers (this can be grid operators, retail customers and businesses) in relation to

Stakeholder	Choose option	Please explain
	included	winter readiness and the impact of potential flooding on its networks, generation and retail business activities. SSE contacts these customers using web communications; TV, radio and newspaper campaigns; and direct customer contact through our customer call centres. SSE has emergency response plans, business continuity plans and a series of communication for different customers to ensure they understand how to respond to the impact of flooding on energy supply.
Employees	Relevant, included	SSE regularly reviews the readiness of its employees to respond to emergencies, get to sites to maintain operations and other business continuity issues. This may be a result of flooding in communities where its employees live or flooding at our sites. This is to ensure business continuity in the event of flooding or other emergency situations.
Investors	Relevant, included	SSE reports to investors on water risks through CDP (this survey), its annual report and accounts and its sustainability report. This is the second year SSE has reported to CDP on water and this is a result of the increased importance of water to its investment community. In 2014/15 SSE also extended its annual report and sustainability report to include water data and in 2015/16 and 2016/17 its water data was assured by PwC in accordance with the ISAE3000 (revised) and ISAE3410 standards.
Local communities	Relevant, included	SSE consults and engages with local communities and community groups/ organisations on the impact of its operations to their recreational and business activities. For instance the impact of its hydro operations on fisheries and fishing, canoeing and other recreational users. This is to ensure that SSE can operate in the local communities in which it has a presence.
NGOs	Relevant, included	SSE regularly consults with key stakeholders on water related issues and the main groups of relevant agencies are the other categories outlined in this table.
Other water users at a local level	Relevant, included	Its risk assessments have identified the key water users at local levels and the impact of these on its operations, the key stakeholder groups are covered by the other categories in this table.
Regulators	Relevant, included	SSE has regular contact with regulators, Environment Agency, SEPA and Environment Protection Agency (Ireland) on water issues including consents, compensation flows and river basin/ ecosystem/ habitat management. SSE also maintains a strong presence at meetings that involve regulators and policy makers in relation to water issues for example SSE are on the Advisory Reform Abstraction Group that is chaired by DEFRA in relation to the new water abstraction directive and SSE are meeting regularly with SEPA to discuss the impact of water framework directive on its hydro operations post 2027.
River basin management authorities	Relevant, included	SSE have regular discussions and respond to consultations with key river basin management authorities (including regulators and government) through industry working groups on water abstraction reform, water framework changes and the different needs of different water users. This is to ensure that SSE's views and knowledge can be integrated into regulatory plans and the impact to our operations is understood by regulatory authorities.
Statutory special interest groups at a local level	Relevant, included	SSE has regular contact with statutory special interest groups in relation to impact of current operations and future activities on water resources (quality and quantity) and river basin/ ecosystem/ habitat management planning. SSE does this through formal planning consultation processes as well as through regular meetings/ discussions and forums that exist as part of its ongoing stakeholder consultation and engagement exercises.
Suppliers	Relevant,	SSE assesses the impact of water resources on the ability of its suppliers to provide us with raw materials. For example

Stakeholder	Choose option	Please explain
	included	at its thermal generation plant SSE understand the impact of flooding to its suppliers and its potential to impact the delivery of coal to its business.
Water utilities at a local level		
Other	Not relevant, included	SSE has assessed the impact of different stakeholders in relation to water risk and has not identified any other categories that have a significant impact on its operations.

W2.8

Please choose the option that best explains why your organisation does not undertake a water-related risk assessment

Primary reason	Please explain

Further Information

Module: Implications

Page: W3. Water Risks

W3.1

Is your organization exposed to water risks, either current and/or future, that could generate a substantive change in your business, operations, revenue or expenditure?

Yes, direct operations and supply chain

W3.2

Please provide details as to how your organization defines substantive change in your business, operations, revenue or expenditure from water risk

SSE defines risk as anything that can threaten the achievement of its business and strategic objectives or compromise SSE's core values. As part of ongoing assessment key risk indicators are reported to the Board and these provide insight into the significant factors which are likely to influence SSE's exposure to those risks.

SSE's business divisions have different risk profiles. For example, Networks is heavily regulated and is characterised as stable. Whereas, the Wholesale business is heavily exposed to energy market and commodity risk.

In relation to water risk, a pollution incident, water availability/ quality issue or climate related impact could have a material adverse impact to the environment, operations, property, employees, contractors or members of the public. These issues could also threaten SSE's core values of Safety, Service, Efficiency, Sustainability, Excellence and Teamwork.

W3.2a

Please provide the number of facilities* per river basin exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure; and the proportion of company-wide facilities this represents

Country	River basin	Number of facilities exposed to water risk	Proportion of company-wide facilities that this represents (%)	Comment
United Kingdom	Other: River catchments in Scotland	30	1-5	SSE's hydro generation facilities make up in 2016/17 14% of SSE's generation capacity and 11% of the Group's output. The hydro generation plant is located in regions of high rainfall – Scotland. It is the variability and change of climate (and associated weather) that impact the way SSE generates from its hydro generation sites. This in turn means SSE may have to adapt

Country	River basin	Number of facilities exposed to water risk	Proportion of company-wide facilities that this represents (%)	Comment
				and change the way it operates in the future to respond to water related issues that arise as a result of climate change. In the past few years, SSE has had to respond to milder and wetter winters. This means that SSE has to operate and adapt its generation activities and has resulted in a different way of managing the assets to the way it did 5 to 10 years ago.

W3.2b

For each river basin mentioned in W3.2a, please provide the proportion of the company's total financial value that could be affected by water risks

Country	River basin	Financial reporting metric	Proportion of chosen metric that could be affected	Comment
United Kingdom	Other: River catchments in Scotland	% generation capacity	1-5	SSE's hydro generation facilities make up in 2016/17 14% of SSE's generation capacity and 11% of the Group's output. The hydro generation plant is located in regions of high rainfall – Scotland. It is the variability and change of climate (and associated weather) that impacts the way SSE generates from its hydro generation sites. This in turn means that the business may have to adapt and change the way it operates in the future to respond to water related issues that arise as a result of climate change. In the past few years, SSE has had to respond to milder and wetter winters. This means that SSE has to operate and adapt its generation activities and has resulted in a different way of managing the assets to the way it did 5 to 10 years ago.

W3.2c

Please list the inherent water risks that could generate a substantive change in your business, operations, revenue or expenditure, the potential impact to your direct operations and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
United Kingdom	Other: River catchments in Scotland	Physical-Climate change	Plant/production disruption leading to reduced output	SSE's generation assets rely on water to operate, in particular our hydro assets use water to generate electricity. Climate change has the potential to change future weather patterns. This could result in changes to water availability and the way SSE runs its generation portfolio.	>6 years	Probable	Medium	Other: SSE uses a meteorological team to enable us to plan and respond to weather related events that arise as a result of climate change	All costs associated with SSE's response to this risk are included within operational and capital investment plans and budgets. All water risks are managed as part of the overall business risk management system and response strategies are integrated into core business activities. Examples of this include a meteorology team that responds to	Response to water related risks is immediate, as weather and climate events are constantly being monitored and modelled for the current operating period as well as for the long term (through scenario planning). SSE responds by adapting and changing the way it runs its hydro generation operations. For example, recent wetter and milder

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
									weather related events in order to plan energy demand and energy supply.	winters have resulted in changes to the way SSE stores water and runs its hydro plant to weather and climate events of 5 to 10 years ago. The meteorological and adaptation methods enable SSE to generate electricity effectively and efficiently without operational or financial impacts.
United Kingdom	Other: River catchments in Scotland	Regulatory-Regulation of discharge quality/volumes leading to higher compliance costs	Plant/production disruption leading to reduced output	SSE's hydro generation assets are regulated through Scottish Basin Plans in order to meet the	>6 years	Highly probable	Low	Engagement with public policy makers Engagement with other stakeholders in the river basin	All costs associated with SSE's response to this risk are included within operational	Response to the risk of the impact of future legislation on generation activities is constantly

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
		Regulatory-Statutory water withdrawal limits/changes to water allocation		requirements of European Union Water Framework Directive. This regulation puts limits on the amount of output through the use of compensation flows. Between 2016 and 2027 output across SSE's hydro assets will be reduced to meet legal requirements by up to 3 to 5%. There is also uncertainty around the UK's future participation in European legislation.				Other: SSE adapts and changes the way it operates its hydro generation assets in order to reduce the impact of future legislation on its generation output	and capital investment plans and budgets. SSE engages and consults regularly with key stakeholders (including government and regulators) through formal consultation processes as well as through industry and sector working groups. SSE also has key public policy and regulatory experts that engage and consult with government and regulators on any future	monitored by regulatory and public affairs experts. SSE's experts respond in the designated timeframes to formal consultations. SSE's experts also engage and consult with government and regulators before legislation is statutory. Projects will be identified (where required) in operational and capital plans to ensure that any mitigating plans are in place to meet regulatory requirements.

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
									legislation changes.	For example, this approach was implemented to meet the requirements of the Industrial Emissions Directive and shows the effectiveness of SSE's strategy for other environmental issues. There are no equivalent other water related regulations that have required this level of response in the past by SSE.
United Kingdom	Other: River catchments in south of England	Regulatory- Regulation of discharge quality/volumes leading to	Higher operating costs	SSE's thermal generation plant uses water for cooling and process	4-6 years	Highly probable	Low	Engagement with public policy makers Other: Adapt and change	All costs associated with SSE's response to this risk are	SSE engages and consults with key regulators and

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
		higher compliance costs		<p>activities. Water quality is important for generation requirements. Implementation of national legislation in the next 5 years as a result of the requirements of the European Union's Water Framework Directive will change the environmental quality standards of water catchments. This will impact SSE's water and wastewater consents and discharges. There is also uncertainty around the UK's future participation in European legislation.</p>				operations to ensure compliance with new standards	included within operational and capital investment plans and budgets. There could be potential costs if a decision regarding future participation in European legislation is not signalled by the UK government and the European Union well in advance and there is not a smooth transition process in place to manage arrangements.	government on changes to legislation and impacts to its operations. For this risk SSE is involved with ongoing consultation and engagement with Environment Agency and BEIS through the Energy Company Working Groups. This is part of current stakeholder operational costs. SSE has operational plans to ensure mitigation plans are in place to respond to

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										regulatory changes.
United Kingdom	Other: River catchments Scotland and south of England	Physical-Flooding	Higher operating costs	Severe flooding impacts SSE's operations such as its distribution and networks and the supply of electricity to customers. This can also be the case for generation activities where local flooding may impact generation capability.	Current-up to 1 year	Highly probable	Low	<p>Develop flood emergency plans</p> <p>Engagement with community</p> <p>Engagement with customers</p> <p>Engagement with public policy makers</p> <p>Engagement with other stakeholders in the river basin</p> <p>Infrastructure investment</p> <p>Infrastructure maintenance</p> <p>Re-siting of facilities</p>	<p>All costs associated with SSE's response to this risk are included in operational and capital investment plans and budgets including:</p> <ul style="list-style-type: none"> •Planned preventative maintenance •Contingency and emergency response •Customer and stakeholder communication plans •Investment programmes to mitigate against flooding •Resilient Communities 	<p>Response to flooding related risks is immediate, as weather and climate events are constantly being monitored and modelled for the current operating period as well as for the long term (through scenario planning). SSE has emergency response plans, business continuity plans and stakeholder communication plans for flooding instances.</p>

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
									Fund for local communities.	
United Kingdom	Other: River catchments in Scotland	Regulatory-Regulation of discharge quality/volumes leading to higher compliance costs Regulatory-Statutory water withdrawal limits/changes to water allocation Reputational-Community opposition	Other: Reduced generation	The impact of local stakeholders on the regulator to improve river flows which may reduce potential annual generation output from existing hydro generation power stations in order to improve river flows in line with river basin management plan objectives.	Current-up to 1 year	Highly probable	Low	Engagement with community Engagement with public policy makers Engagement with other stakeholders in the river basin River basin restoration Promote best practice and awareness Strengthen links with local community	All costs associated with SSE's response to this risk are included within operational and capital investment plans and budgets. SSE engages and consults regularly with key stakeholders through formal consultation processes and through industry and sector working groups. SSE also has community consultation experts, public policy	SSE engages and consults with key regulators and government on changes to legislation and impacts to its operations. SSE also engages and consults with key stakeholders on changes to legislation and the impacts of this to stakeholders. For example at the River Garry there is the potential of new legislation to reduce generation from hydro

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
									and regulatory experts that engage and consult with communities and other local stakeholders, government and regulators on any future legislation changes.	power stations along the river by 20 to 30 GW. SSE is working with local stakeholders to understand the impacts and concerns and improve river flows in line with river basin management plan objectives. Response to the risk of the impact of future legislation on generation activities is constantly monitored by regulatory and public affairs experts. SSE's experts also engage and consult

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										with government and regulators before legislation is statutory. Projects will be identified (where required) in operational and capital plans to ensure that any mitigating plans are in place to meet regulatory requirements.

W3.2d

Please list the inherent water risks that could generate a substantive change in your business operations, revenue or expenditure, the potential impact to your supply chain and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
United Kingdom	Other: River catchments in England and Scotland	Physical-Climate change Physical-Flooding	Higher operating costs	SSE relies on key suppliers to deliver and generate energy, maintain its infrastructure and deliver capital improvements	>6 years	Unlikely	Low	Develop flood emergency plans Engagement with other stakeholders in the river basin Engagement with suppliers Re-siting of facilities	Impact of water (like any non financial risks) are included in supplier risk assessment processes. For example, risk of flooding to the supply of coal to our thermal generation assets was assessed and seen to be immaterial in comparison to other non financial and financial risks. SSE works with its suppliers to mitigate and reduce risks. These costs are built into existing operational and capital investments plans.	Emergency plans and business continuity plans build in supplier management where required and any costs associated with managing these risks.

W3.2e

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your direct operations that could generate a substantive change in your business, operations, revenue or expenditure

Primary reason	Please explain
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W3.2f

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your supply chain that could generate a substantive change in your business, operations, revenue or expenditure

Primary reason	Please explain
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W3.2g

Please choose the option that best explains why you do not know if your organization is exposed to water risks that could generate a substantive change in your business operations, revenue or expenditure and discuss any future plans you have to assess this

Primary reason	Future plans
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Further Information

Page: W4. Water Opportunities

W4.1

Does water present strategic, operational or market opportunities that substantively benefit/have the potential to benefit your organization?

Yes

W4.1a

Please describe the opportunities water presents to your organization and your strategies to realize them

Country or region	Opportunity	Strategy to realize opportunity	Estimated timeframe	Comment
United Kingdom	Climate change adaptation	SSE uses a meteorological team to enable us to plan and respond to weather related events that arise as a result of climate change. Response to water related opportunities is immediate, as weather and climate events are constantly being monitored and modelled for the current operating period as well as for the long term (through scenario planning). SSE also responds by adapting and changing the way it runs its hydro generation operations. For example, recent wetter and milder winters have resulted in changes to the way SSE stores water and runs its hydro plant to weather and climate events of 5 to 10 years ago. Recently, SSE's hydro generation plants have performed well and output makes up around 11% of the generation mix in 2016/17 (with total renewable generation contributing to around 30% of the generation output mix in 2016/17).	>6 years	SSE's generation assets rely on water to operate, in particular our hydro assets use water to generate electricity. Climate change has the potential to change future weather patterns. This could result in changes to water availability that leads to an increase in the ability to generate using hydro facilities in the future and the way SSE runs its generation portfolio. Recently, SSE's hydro generation plants have performed well and output makes up around 11% of the generation mix in 2016/17 (with total renewable generation contributing to around 30% of the generation output mix in 2016/17).

W4.1b

Please choose the option that best explains why water does not present your organization with any opportunities that have the potential to provide substantive benefit

Primary reason	Please explain
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W4.1c

Please choose the option that best explains why you do not know if water presents your organization with any opportunities that have the potential to provide substantive benefit

Primary reason	Please explain
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Further Information

Module: Accounting

Page: W5. Facility Level Water Accounting (I)

W5.1

Water withdrawals: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

Facility reference number	Country	River basin	Facility name	Total water withdrawals (megaliters/year) at this facility	How does the total water withdrawals at this facility compare to the last reporting year?	Please explain
Facility 1	United Kingdom	Other: Scotland	Hydro generation - Scotland	22184953	Much lower	Low rainfall and low water levels led to a reduction in hydro generation activities by 24%. As a result water withdrawals for generation purposes decreased by 22%.
Facility 2	United Kingdom	Other: Scotland & England	Thermal generation	473984	Higher	For thermal plants water is used for cooling and as process water. Cooling water is abstracted and returned directly to the environment. The better the cooling the higher the efficiency of water use. The water withdrawn increased from 292,600 megalitres to 473,984 megalitres between 2015/16 and 2016/17 (62% increase). This was because of an increase in the generation output from gas fired power stations. This led to an increased amount of water abstracted for cooling and process water.
Facility 3	United Kingdom	Other: Scotland & England	Non operational buildings	92	Higher	Water used in amenities increased by 8% between 2015/16 and 2016/17 reflecting an increase in the number of buildings in the SSE property portfolio and a change in the use of space.

Further Information

Page: W5. Facility Level Water Accounting (II)

W5.1a

Water withdrawals: for the reporting year, please provide withdrawal data, in megaliters per year, for the water sources used for all facilities reported in W5.1

Facility reference number	Fresh surface water	Brackish surface water/seawater	Rainwater	Groundwater (renewable)	Groundwater (non-renewable)	Produced/process water	Municipal water	Wastewater from another organization	Comment
Facility 1	22184953	0	0	0	0	0	0	0	Low rainfall and low water levels led to a reduction in hydro generation activities by 24%. As a result water withdrawals for generation purposes decreased by 22%.
Facility 2	274483	199501	0	0	0	0	0	0	For thermal plants water is used for cooling/ process water in a variety of operations. Cooling water is abstracted and returned directly to the environment. The better the cooling the higher the efficiency of water use. The water withdrawn increased from 292,600 megalitres to 473,984 megalitres between 2015/16 and 2016/17 (62% increase), due to an increase in the generation output from gas fired power stations. This led to an increased amount of water abstracted for cooling and process water.

Facility reference number	Fresh surface water	Brackish surface water/seawater	Rainwater	Groundwater (renewable)	Groundwater (non-renewable)	Produced/process water	Municipal water	Wastewater from another organization	Comment
Facility 3	0	0	0	0	0	0	92	0	Water used in amenities increased by 8% between 2015/16 and 2016/17 reflecting an increase in the number of buildings in the SSE property portfolio and a change in the use of space.

W5.2

Water discharge: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

Facility reference number	Total water discharged (megaliters/year) at this facility	How does the total water discharged at this facility compare to the last reporting year?	Please explain
Facility 1	22184953	Much lower	Low rainfall and low water levels led to a reduction in hydro generation activities by 24%. As a result water withdrawals for generation purposes decreased by 22%. The majority of water abstracted is then discharged back to the water environment. At these sites water is taken from rivers and lochs and returned to the water environment after being run through the turbines to generation electricity.
Facility 2	469513	Higher	For thermal plants water is used for cooling and as process water. Water is treated onsite before

Facility reference number	Total water discharged (megaliters/year) at this facility	How does the total water discharged at this facility compare to the last reporting year?	Please explain
			returning it to source in accordance with specific environmental permits. The water discharged increased from 62,796 megalitres to 284,586 megalitres (65% increase), due to increased output from the gas fired power stations increased. In addition, SSE began the process of decommissioning its Ferrybridge coal fired power station and this resulted in the draining of the cooling towers.
Facility 3	92	Higher	Water discharged in amenities increased by 8% between 2015/16 and 2016/17 reflecting an increase in the number of buildings in the SSE property portfolio and a change in the use of space.

W5.2a

Water discharge: for the reporting year, please provide water discharge data, in megaliters per year, by destination for all facilities reported in W5.2

Facility reference number	Fresh surface water	Municipal/industrial wastewater treatment plant	Seawater	Groundwater	Wastewater for another organization	Comment
Facility 1	22184953	0	0	0	0	Low rainfall and low water levels led to a reduction in hydro generation activities by 24%. As a result water withdrawals for generation purposes decreased by 22%. The majority of water abstracted is then discharged back to the water environment. At these sites water is taken from rivers and lochs and returned to the water environment after being run through the turbines to generation electricity.
Facility 2	270012	0	199501	0	0	For thermal plants water is used for cooling and as process water. Water is treated onsite before returning it to source in accordance with specific environmental permits. The water discharged increased from 62,796 megalitres to 284,586

Facility reference number	Fresh surface water	Municipal/industrial wastewater treatment plant	Seawater	Groundwater	Wastewater for another organization	Comment
						megalitres (65% increase), due to increased output from the gas fired power stations increased. In addition, SSE began the process of decommissioning its Ferrybridge coal fired power station and this resulted in the draining of the cooling towers.
Facility 3	0	92	0	0	0	Water used in amenities increased by 8% between 2015/16 and 2016/17 reflecting an increase in the number of buildings in the SSE property portfolio and a change in the use of space.

W5.3

Water consumption: for the reporting year, please provide water consumption data for all facilities reported in W3.2a

Facility reference number	Consumption (megaliters/year)	How does this compare to the last reporting year?	Please explain
Facility 1	0	About the same	The majority of water is abstracted and then returned to source after being used in SSE's hydro generation plants. Hydro generation power stations therefore do not consume water.
Facility 2	4979	Lower	In 2016/17 water was consumed as cooling water and process water in thermal power stations and this is the same trend year on year. In 2015/16 water consumption fell reflecting a reduction in the generation output from coal fired power stations and the use of gas fired power stations with low water consumption technologies. Thermal power station consumption fell by nearly 44%.
Facility 3	92	Higher	Water used in amenities increased by 8% between 2015/16 and 2016/17 reflecting an increase in the number of buildings in the SSE property portfolio and a change in the use of space.

W5.4

For all facilities reported in W3.2a what proportion of their water accounting data has been externally verified?

Water aspect	% verification	What standard and methodology was used?
Water withdrawals- total volumes	76-100	Assured by PwC to the ISAE3000 standard and ISAE3410 (assurance engagements on greenhouse gas statements).
Water withdrawals- volume by sources	76-100	Assured by PwC to the ISAE3000 standard and ISAE3410 (assurance engagements on greenhouse gas statements).
Water discharges- total volumes	76-100	Assured by PwC to the ISAE3000 standard and ISAE3410 (assurance engagements on greenhouse gas statements).
Water discharges- volume by destination	76-100	Assured by PwC to the ISAE3000 standard and ISAE3410 (assurance engagements on greenhouse gas statements).
Water discharges- volume by treatment method	Not verified	The majority of SSE's water discharges are associated with SSE's hydro generation and there is no treatment method used. For discharges for thermal generation these are monitored and regulated by regulatory authorities.
Water discharge quality data- quality by standard effluent parameters	Not verified	The majority of SSE's water discharges are associated with SSE's hydro generation and there is no treatment method used. For the hydro generation business there is regulatory requirements for the flow rates (compensation flows) and these are monitored and reported to the relevant regulator. For discharges for thermal generation these are monitored and regulated by regulatory authorities.
Water consumption- total volume	76-100	Assured by PwC to the ISAE3000 standard and ISAE3410 (assurance engagements on greenhouse gas statements).

Further Information

Module: Response

Page: W6. Governance and Strategy

W6.1

Who has the highest level of direct responsibility for water within your organization and how frequently are they briefed?

Highest level of direct responsibility for water issues	Frequency of briefings on water issues	Comment
Board of individuals/Sub-set of the Board or other committee appointed by the Board	Scheduled-annual	The Group Governance, Culture and Controls Committee is a sub-Committee of the Executive Committee, it manages governance developments, advices on matters relating to external affairs (including sustainability issues) and assists in developing the investor relations strategy. It is responsible for overseeing the company's compliance with regulatory and legal requirements (including environment issues such as water). The Safety, Health and Environment Advisory Committee advises the Board on safety, health and environment matters. It is responsible for SHE policies, targets and strategy, performance, awareness and action.

W6.2

Is water management integrated into your business strategy?

Yes

W6.2a

Please choose the option(s) below that best explains how water has positively influenced your business strategy

Influence of water on business strategy	Please explain
Greater due diligence	Water risks are factored into risk assessment processes. The increased transparency around water reporting has led to the improvement in the reliability and accuracy of water data. For instance, internal water audits are completed of water monitoring, data collection and reporting

Influence of water on business strategy	Please explain
	activities. External audit is also part of the improved due diligence process, with assurance of water data by PwC for the first time in 2015/16 and the repeated assurance of water data by PwC in 2016/17.

W6.2b

Please choose the option(s) below that best explains how water has negatively influenced your business strategy

Influence of water on business strategy	Please explain
No measurable influence	Water is assessed by the business as a risk but not a material risk. Risk assessments identify the areas that require focus and business plans are in place to manage these issues. For example, flooding is a risk however plans are in place to mitigate and manage this risk and as a result the risk is not material in terms of impact and scale.

W6.2c

Please choose the option that best explains why your organization does not integrate water management into its business strategy and discuss any future plans to do so

Primary reason	Please explain

W6.3

Does your organization have a water policy that sets out clear goals and guidelines for action?

Yes

W6.3a

Please select the content that best describes your water policy (tick all that apply)

Content	Please explain why this content is included
Publicly available Company-wide Performance standards for direct operations Performance standards for supplier, procurement and contracting best practice Incorporated within group environmental, sustainability or EHS policy Other: Incorporated within group environmental, sustainability or EHS policy	SSE has a group wide Environment and Climate Change policy. This policy is implemented locally by business units through environmental management systems. Water is included as part of this policy, processes and procedures. Specifically, SSE commits to “reduce carbon, energy and water impacts and look at new technologies to support low carbon and less water intensive energy systems in the future”. The policy requires SSE’s operations to, amongst other things, identify material impacts, manage environmental risks, engage positively with key stakeholders, work with suppliers, and integrate environmental improvements into everyday decision making. The Environment and Climate Change policy is available at SSE’s corporate website, sse.com/beingresponsible . The Environment and Climate Change Policy is a group policy, it is signed by the Chief Executive Officer.

W6.4

How does your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) during the most recent reporting year compare to the previous reporting year?

Water CAPEX (+/- % change)	Water OPEX (+/- % change)	Motivation for these changes
0	0	In the year to 31 March 2017 SSE's investment and capital expenditure totalled £1.73bn. Economically regulated Networks and government mandated renewables (which includes hydro generation) accounted for 70% of this spend. Further details of capital expenditure is provided in the Consolidated Segmental Statement (CCS) each year.

Further Information

Page: W7. Compliance

W7.1

Was your organization subject to any penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations in the reporting year?

No

W7.1a

Please describe the penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations and your plans for resolving them

Facility name	Incident	Incident description	Frequency of occurrence in reporting year	Financial impact	Currency	Incident resolution
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W7.1b

What proportion of your total facilities/operations are associated with the incidents listed in W7.1a?

W7.1c

Please indicate the total financial impacts of all incidents reported in W7.1a as a proportion of total operating expenditure (OPEX) for the reporting year. Please also provide a comparison of this proportion compared to the previous reporting year

Impact as % of OPEX	Comparison to last year
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Further Information

Page: W8. Targets and Initiatives

W8.1

Do you have any company wide targets (quantitative) or goals (qualitative) related to water?

Yes, targets and goals

W8.1a

Please complete the following table with information on company wide quantitative targets (ongoing or reached completion during the reporting period) and an indication of progress made

Category of target	Motivation	Description of target	Quantitative unit of measurement	Base-line year	Target year	Proportion of target achieved, % value
Water pollution prevention	Brand value protection	No pollution incidents	Other: Number	2016	2017	100%

W8.1b

Please describe any company wide qualitative goals (ongoing or reached completion during the reporting period) and your progress in achieving these

Goal	Motivation	Description of goal	Progress
Watershed remediation and habitat restoration, ecosystem preservation	Water stewardship	Partnerships and collaborative working with regulatory bodies (such as SEPA) and other stakeholders to find the appropriate balance between maintaining renewable energy generation, security of supply and delivering local environmental improvements.	SSE has regular contact with regulators, Environment Agency, SEPA and Environment Protection Agency (Ireland) on water issues including consents, compensation flows and river basin/ ecosystem/ habitat management. SSE also maintains a strong presence at meetings that involve regulators and policy makers in relation to water issues for example SSE are on the Advisory Reform Abstraction Group that is chaired by DEFRA in relation to the new water abstraction directive and SSE are meeting regularly with SEPA to discuss the impact of water framework directive on its hydro operations up to and beyond 2027.

W8.1c

Please explain why you do not have any water-related targets or goals and discuss any plans to develop these in the future

Further Information

Module: Linkages/Tradeoff

Page: W9. Managing trade-offs between water and other environmental issues

W9.1

Has your organization identified any linkages or trade-offs between water and other environmental issues in its value chain?

Yes

W9.1a

Please describe the linkages or trade-offs and the related management policy or action

Environmental issues	Linkage or trade-off	Policy or action
Climate change and its potential impact on weather. Weather then impacts the environment and creates flooding events that have the potential to impact SSE's operations.	Linkage	The following actions are in place: safety, health and environment policy, risk assessments, mitigation plans, targets and performance review.

Further Information

Module: Sign Off

W10.1

Please provide the following information for the person that has signed off (approved) your CDP water response

Name	Job title	Corresponding job category
Gregor Alexander	SSE's Finance Director	Chief Financial Officer (CFO)

W10.2

Please indicate that your organization agrees for CDP to transfer your publicly disclosed data regarding your response strategies to the CEO Water Mandate Water Action Hub.

Note: Only your responses to W1.4a (response to impacts) and W3.2c&d (response to risks) will be shared and then reviewed as a potential collective action project for inclusion on the WAH website.

By selecting Yes, you agree that CDP may also share the email address of your registered CDP user with the CEO Water Mandate. This will allow the Hub administrator to alert your company if its response data includes a project of potential interest to other parties using water resources in the geographies in which you operate. The Hub will publish the project with the associated contact details. Your company will be provided with a secure log-in allowing it to amend the project profile and contact details.

Yes

Further Information

CDP